

## REMARKS

The Final Office Action, mailed March 16, 2007, considered claims 1–4, 6–11, 13, 15–18, 22 and 23. Claims 22 and 23 were rejected under 35 U.S.C. § 102(b) as being anticipated by Chang, U.S. Patent No. 5,627,979 (filed Jul. 18, 1994) (hereinafter Chang). Claims 1–4, 6, 9–11, 13, and 15–18 were rejected under 35 U.S.C. 103(a) as being unpatentable over Parvathaneny, U.S. Patent No. 5,829,006 (filed Jul 21, 1997) (hereinafter Parvathaneny), in view of Van Huben, U.S. Patent No. 6,484,177 (filed Jan. 13, 2000) (hereinafter Van Huben). Claims 7 and 8 were rejected under 35 U.S.C. 103(a) as being unpatentable over Parvathaneny, in view of Van Huben, and further in view of Ferguson, U.S. Patent No. 6,016,499 (filed Jul. 21, 1997) (hereinafter Ferguson).<sup>1</sup>

By this response, claim 1 is amended such that claims 1–4, 6–11, 13, 15–18, 22 and 23 remain pending. Claims 1, 16, and 22 are independent claims which remain at issue. Support for the amendments may be found within Specification ¶¶ 44.<sup>2</sup>

As reflected in the claims, the present invention is directed generally toward embodiments providing an interface enabling an object-oriented application to have access to data held in a data repository in which data is held in a format using schema and schema attributes different than the object format within the application. The method recited in claim 1, for instance, as recited in combination with all the elements of the claim, includes providing an interface between an object-oriented application and a data repository where the interface can receive access requests identifying an object class and object properties in a format specific to the application and where the interface can translate the access request into an access command using the syntax and schema of the data repository such that the data repository can service the access request as is particularly pointed out in combination with each of the elements of the claim.

Claim 16 recites a computer program product embodiment of the method recited in claim 1, and claim 22 recites a mapping tool useful to the method in claim 1 for mapping the object format of the application to the schema format of the database.

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<sup>1</sup> Although the prior art status of the cited art is not being challenged at this time, Applicants reserve the right to challenge the prior art status of the cited art at any appropriate time, should it arise. Accordingly, any arguments and amendments made herein should not be construed as acquiescing to any prior art status of the cited art.

<sup>2</sup> However, it should be noted that the present invention and claims as recited take support from the entire Specification. As such, no particular part of the Specification should be considered separately from the entirety of the Specification.

Independent claims 1 and 16 were rejected under 35 U.S.C. § 103(a) as being made obvious in view of Parvathaneny and in further view of Van Huben. However, the Applicant submits that the cited references fail to teach or suggest each and every element of the claims as recited. In particular, the Examiner cited to Parvathaneny col. 5 l. 21–31 for teaching that "receiving . . . an access command, wherein the access command identifies an object class and an object property . . . in a format specific to the application but which format is different than a format utilized by the repository to define a corresponding schema class and schema attribute."<sup>3</sup> The cited portion of Parvathaneny reads:

"The RDBMS 112 returns tuples 412 (i.e., rows from one or more tables) as a result of processing the relational queries 410. The object generator 404 receives these tuples 412. According to the present invention, the object generator 404 does not transfer these tuples 412 to the application 104, since the application 104 expects to receive object-oriented objects, not tuples. Instead, the object generator 404 efficiently translates these tuples into object-oriented objects 414. According to the present invention, this translation is performed so as to adhere to the class inheritance hierarchy defined by the object oriented schema."<sup>4</sup>

The Applicant submits that the cited portion of Parvathaneny fails to teach or suggest that the access command identified an object class and an object property in a format specific to the application but which format is different than a format utilized by the repository to define a corresponding schema class and schema attribute. The cited portion of Parvathaneny discusses what is *returned* by a database repository but is silent as to the *format of commands* which are *received* by an interface *from an application*. Accordingly, the cited portion of Parvathaneny, both separately and in combination with the other prior art, fails to teach or suggest the particular element of the claim.

Further, the Examiner cited, in part, to the same portion of Parvathaneny (quoted above) for teaching "translating, at the interface, the access command to a reformatted access command using the syntax and schema of the data repository, wherein the translated access command identifies the schema class and the schema attribute of the data repository which corresponds to the object class

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<sup>3</sup> Office Communication p. 5 (Mar. 16, 2007).

<sup>4</sup> Parvathaneny col. 5 l. 21–31.

and the object property within the application."<sup>5</sup> The Applicant respectfully points out that the cited portion of Parvathaneny discusses tuples which the RDBMS database system (i.e., the data repository) *returns* to an interface and which are translated before being sent *to* the application. The element as recited in the claim, in contrast, is limited to translating an access command *from the application* into a reformatted access command which may be understood by the data repository. Neither Parvathaneny nor the combination of the other cited references supplies the teaching or suggestion of such a translation of the access command from the application into a format to be understood by the data repository.

Nevertheless, claim 1 has been amended to focus the claim on translation information being provided by metadata contained within the object class. In view of the above discussion and in further view of the amendment, the Applicant submits that a rejection under 35 U.S.C. § 103(a) is improper and respectfully request the rejection be withdrawn. The Applicant submits that the claim as now recited is in condition for allowance and requests the Examiner to issue its allowance. Since claim 16 is an alternative embodiment of the method of claim 1, the discussion applies equally to claim 16 and, correspondingly, the Applicant requests its allowance.

Claim 22 was rejected under 35 U.S.C. § 102(b) as being anticipated by Chang. However, the Applicant submits that Chang fails to teach each and every element of the claim as recited. In particular, the Examiner cited to Chang col. 14 l. 30–53 for teaching ". . . *inserting metadata within a definition of the selected object class*, the metadata associating the selected object property with the selected schema attribute."<sup>6</sup> The cited portion of Chang reads:

" To represent tuples in an object schema, each data type in the relational schema must map to an equivalent data type in the object schema. In addition to mapping table columns to class attributes, the Schema Mapper also maps the table data types to attribute data types. By default, a default SQL data type to ODL data type mapping is provided. This default mapping is specified in Table 5. In an alternative embodiment, the user may also override the default datatype conversion for any particular table column datatype to class attribute datatype. In such an alternative embodiment, the default datatypes may be displayed in addition to the table column to class attribute mapping. The user may click on the default datatype to display a listbox of allowable datatypes from which the user may select by clicking to override the default datatype. The

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<sup>5</sup> Office Comm. p. 5.

<sup>6</sup> Office Comm. p. 4.

allowable override mappings from which the user may select are specified in Table 4. In still another alternative embodiment, the user may click on the table column or class attribute to display a details listbox containing the default datatype. The user may then click on the default datatype to display a listbox of allowable datatypes from which the user may select by clicking to override the default datatype."<sup>7</sup>

The Applicants respectfully submit that the cited portion of Chang, as well as its entirety, fail to teach that metadata is inserted into a definition of a selected object class. Although the cited portion of Chang discusses mappings of an object schema to a relational database schema, it fails to teach any inserting of metadata within a definition of an object class.

Because Chang fails to teach each and every element of the claim as recited, it would be improper to reject claim 22 under 35 U.S.C. § 102(b) as being anticipated by Chang. Accordingly, the Applicant respectfully requests the Examiner to withdraw the rejection of claim 22 and issue its allowance.

In view of the foregoing, the Applicant respectfully submits that the other rejections to the claims are now moot and do not, therefore, need to be addressed individually at this time. It will be appreciated, however, that this should not be construed as Applicant acquiescing to any of the purported teachings or assertions made in the last action regarding the cited art or the pending application, including any official notice. Instead, Applicant reserves the right to challenge any of the purported teachings or assertions made in the last action at any appropriate time in the future, should the need arise. Furthermore, to the extent that the Examiner has relied on any Official Notice, explicitly or implicitly, Applicant specifically requests that the Examiner provide references supporting the teachings officially noticed, as well as the required motivation or suggestion to combine the relied upon notice with the other art of record.

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<sup>7</sup> Chang col. 14 l. 30–53.

In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at 801-533-9800.

Dated this 16<sup>th</sup> day of May, 2007.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Rick D. Nydegger", with a stylized flourish at the end.

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